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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/715,724	09/19/1996	PHILLIP E. WILSON	6000	4961

7590 12/19/2003

KAREN M DELLERMAN  
BASF CORPORATION  
26 Davis Drive  
Research Triangle Park, NC 27709

EXAMINER
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JUSKA, CHERYL ANN

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

08/715,724

Applicant(s)

WILSON ET AL.

Examiner

Cheryl Juska

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2,3,9,10 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,3,9 and 23 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed October 28, 2003, has been entered. New claim 23 has been added. The pending claims are 2, 3, 9, 10, and 23.

### ***Claim Objections***

2. Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form. Claim 10 depends from cancelled claim 22.

### ***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 2, 3, and 9 stand rejected under 35 USC 103(a) as being unpatentable over US 5,447,794 issued to Lin in view of US 5,468,555 issued to Lijten et al., and in further view of US 5,340,886 issued to Hoyt et al., as set forth in section 4 of the last Office Action.
5. New claim 23 is rejected under 35 USC 103(a) as being unpatentable over US 5,447,794 issued to Lin in view of US 5,468,555 issued to Lijten et al., and in further view of US 5,340,886 issued to Hoyt et al., as applied to claim 2 above.

New claim 23 limits the second polyamide component (i.e., sheath) of claim 2, 3, or 9 to being substantially sulphonate-free.

Hoyt teaches a method of making an acid dye stain resistant nylon fiber by blocking available amine end groups with a chemical blocking agent (abstract). The chemical blocking agent may be a lactone, such as caprolactone or butyrolactone (col. 5, lines 15-42). Hoyt's working examples 2-7 show non-sulphonated nylon 6 that is treated with various amounts of butyrolactone to produce AEG concentrations ranging from 12-33 meq/kg, while examples 16-21 show a sulphonated nylon 6 treated with butyrolactone produces AEG concentrations ranging from 8-24 meq/kg (col. 9, lines 45-68 and col. 10, Table 1). Thus, although the sulphonated nylon may be the preferred embodiment, Hoyt clearly teaches non-sulphonated nylons having AEG concentrations of less than 30 meq/kg. Therefore, it would have been obvious to one skilled in the art to modify Lin's non-sulphonated nylon sheath with a chemical blocking agent, such as a lactone, in order to reduce the amount of free amine end groups, thereby improving the nylon's resistance to acid dyes.

### ***Response to Arguments***

6. Applicant's arguments filed with the Amendment of October 28, 2003, have been fully considered but they are not persuasive.

Applicant traverses the above rejection by arguing that the Appeals Board did not misread the Lin reference, as asserted by the examiner in the last Office Action. Specifically, applicant asserts the Board *did not explicitly* attribute the amine end group (AEG) concentration of about 50 meq/kg to the sheath polymer (Amendment, page 5). In response, this point is

Art Unit: 1771

conceded by the examiner. The fact remains that Lin does teach an AEG concentration for the nylon core polymer, but is silent with respect to an AEG concentration for the sheath polymer. However, whether or not the Board “misread” the reference, it not germane to the unobviousness of the present invention, as asserted by applicant (Amendment, page 5). In particular, the key point of the Board decision is that the cited prior art of Lin and Lijten does not support the rejection on appeal with respect to the AEG concentration limitations of claims 2, 3, 9, and 10. (See Board decision, sentence spanning pages 7-8 and Amendment, paragraph spanning pages 5-6). The examiner entirely conceded this point and a new rejection was made in the last Office Action.

7. Additionally, the examiner respectfully disagrees with applicant’s assertion that the “teaching” provided by Lin “is essentially that amino end group contents are not important at all, and even if they were, Lin only discloses high amino end group contents of 50 meq/kg” (Amendment, sentence spanning pages 5-6). As stated above, Lin does teach an AEG concentration for the nylon core polymer, but is silent with respect to an AEG concentration for the sheath polymer. Contrary to applicant’s belief, Lin’s teaching of a relatively high AEG concentration for the core nylon does not direct one skilled in the art away from employing a low concentration in the nylon sheath (Amendment, page 6, 1<sup>st</sup> paragraph). The sheath and core are separate polymeric components, wherein the sheath component is on the surface of the fiber and hence, susceptible to staining. Lin’s intent is to produce an acid dye stain resistant nylon fiber. One skilled in the art would readily know that having a high amine end group concentration in the sheath component makes the nylon sheath more susceptible to acid dye staining. The new rejection set forth in the last Office Action, and maintained above, is based upon Lin and Lijten

Art Unit: 1771

based upon Lin and Lijten in further view of Hoyt, which teaches blocking amine end groups to produce a low AEG concentration in order to make the nylon polymer stain resistant to acid dyes. As such, it would have been obvious to one skilled in the art to employ known methods of blocking the amine end groups of the sheath nylon, such as that disclosed by Hoyt, in order to enhance the acid dye stain resistance of the nylon sheath of Lin.

8. With respect to the Blackwell declaration, it is noted that said declaration merely evidences that the AEG concentration of Lin's nylon polymer employed for the sheath could not be determined through an internet search by Blackwell. There is no evidence of unobviousness presented. Thus, said declaration is insufficient to overcome the above rejections.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Application/Control Number: 08/715,724

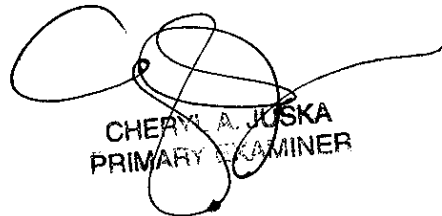
Page 6

Art Unit: 1771

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Cheryl Juska whose telephone number is 703-305-4472. The Examiner can normally be reached on Monday-Friday 10am-6pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



CHERYL A. JUSKA  
PRIMARY EXAMINER

cj  
December 15, 2003